



QualiTest® Diagnostics

7030 Ryburn Dr. Millington, TN

Phone: (901) 873-5300

Fax: (901) 873-5301

www.gohispeed.com

June 14th, 2023

Mason Shelly
Unipres Corp.
Forest, MS

Mason,

The following is a summary of findings from the vibration survey that was performed on June 8th, 2023.

QualiTest® uses a four step rating system for defects.

CLASS I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

CLASS II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

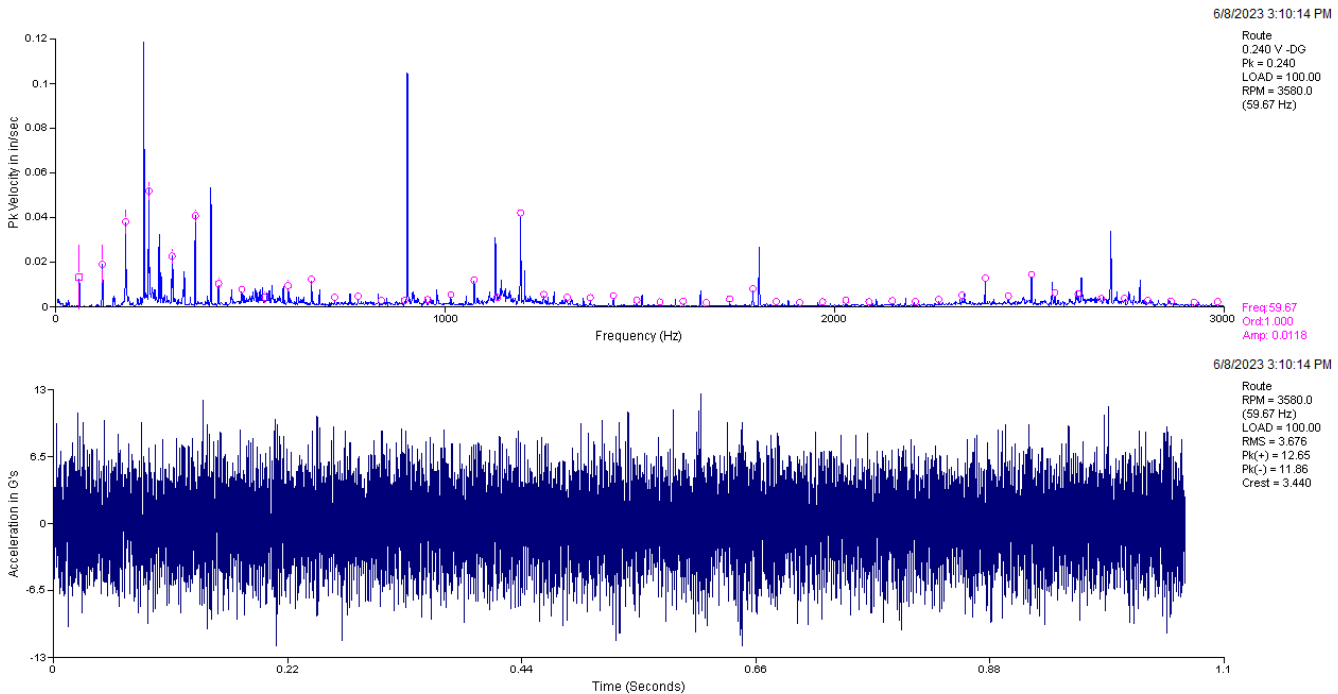
CLASS III: Defect (s) present that may cause failure in short term (less than 2 months). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

CLASS IV: Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Hi-Speed Industrial Service tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

Defect Summary

Air Compressor 1 CLASS II



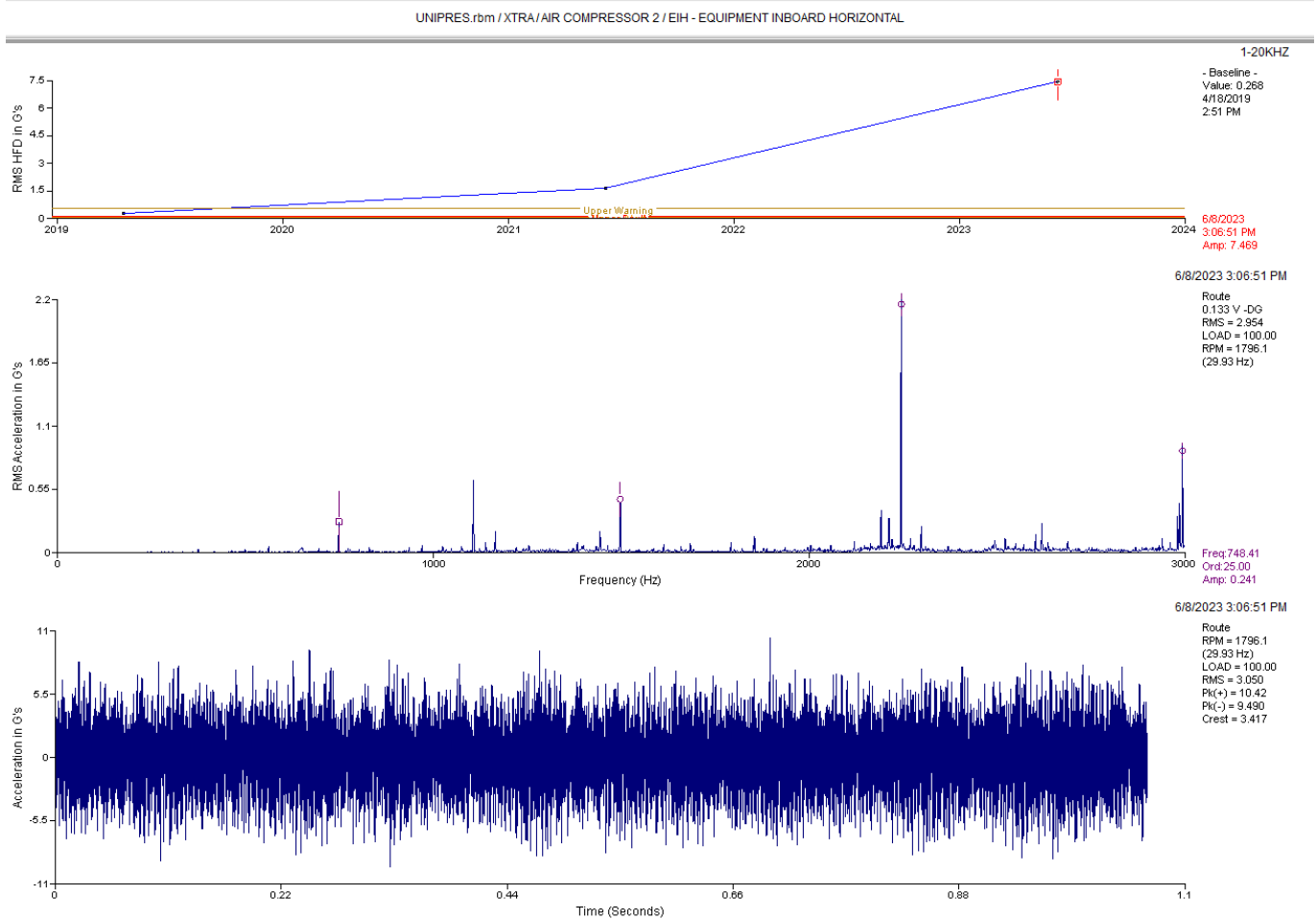
Observation:

Data above is the input side of compressor. Data shows some peaks that are non-synchronous to shaft speed. This is an indication of possible bearing defects in compressor section.

Recommendation:

Vibration amplitudes are somewhat lower in motor overall compared to last survey, but compressor section shows elevated acceleration levels. The compressor section likely has defects and wear and needs to be inspected as time allows.

Air Compressor 2 **CLASS II**



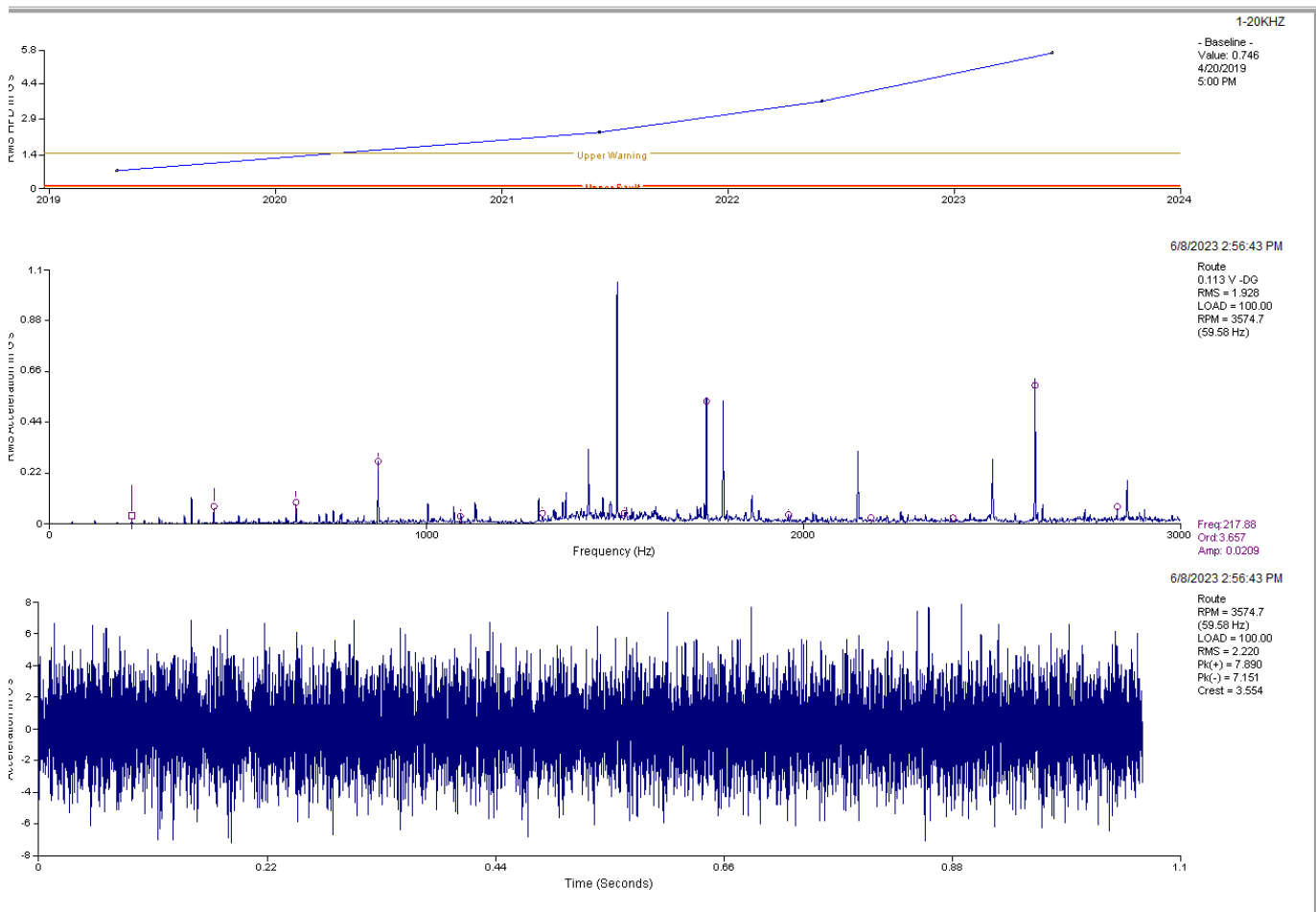
Observation:

Data above is the inboard horizontal compressor. There appears to be several harmonics of 25 x rpm present in the spectral data. This may be a gear issue or other type of internal wear of the compressor section. Trend data shows a significant increase in high frequency amplitude.

Recommendation:

It is recommended to inspect the compressor section for defects and wear as time allows.

Air compressor 6 CLASS II



Observation:

Data above is the input side of compressor. Data shows some peaks that are non-synchronous to shaft speed. This is an indication of possible bearing defects in compressor section.

Recommendation:

Compressor section shows elevated acceleration levels. The compressor section may have defects and wear and needs to be inspected as time allows.

Abbreviated Last Measurement Summary

Database: UNIPRES.rbm
Area: UNIPRES

MEASUREMENT POINT -----	OVERALL LEVEL -----	HFD / VHFD -----
CRANE1MAIN - CRANE 1 MAIN HOIST (08-Jun-23)		
	OVERALL LEVEL	1-20KHZ
MOH	.059 In/Sec	.463 G-s
MOV	.056 In/Sec	.230 G-s
MIV	.025 In/Sec	.053 G-s
MIH	.038 In/Sec	.515 G-s
MIA	.032 In/Sec	.060 G-s
GIA	.033 In/Sec	.010 G-s
GIH	.021 In/Sec	.018 G-s
GIV	.021 In/Sec	.013 G-s
G01	.012 In/Sec	.012 G-s
CRANE2MAIN - CRANE 2 MAIN HOIST (08-Jun-23)		
	OVERALL LEVEL	1-20KHZ
MOH	.096 In/Sec	.370 G-s
MOV	.092 In/Sec	.129 G-s
MIV	.040 In/Sec	.055 G-s
MIH	.038 In/Sec	.261 G-s
MIA	.038 In/Sec	.050 G-s
GIA	.020 In/Sec	.079 G-s
GIH	.013 In/Sec	.128 G-s
GIV	.064 In/Sec	.106 G-s
G01	.048 In/Sec	.086 G-s
CRANE3MAIN - CRANE 3 MAIN HOIST (08-Jun-23)		
	OVERALL LEVEL	1-20KHZ
MOH	.041 In/Sec	.354 G-s
MOV	.064 In/Sec	.306 G-s
MIV	.027 In/Sec	.124 G-s
MIH	.035 In/Sec	.459 G-s
MIA	.026 In/Sec	.167 G-s
GIA	.033 In/Sec	.054 G-s
GIH	.016 In/Sec	.278 G-s
GIV	.030 In/Sec	.070 G-s
G01	.027 In/Sec	.079 G-s
CRANE4MAIN - CRANE 4 MAIN HOIST (08-Jun-23)		
	OVERALL LEVEL	1-20KHZ
MOH	.079 In/Sec	.337 G-s
MOV	.038 In/Sec	.062 G-s
MIV	.032 In/Sec	.062 G-s
MIH	.082 In/Sec	.337 G-s
MIA	.036 In/Sec	.064 G-s
GIA	.036 In/Sec	.064 G-s
GIH	.081 In/Sec	.337 G-s
GIV	.033 In/Sec	.062 G-s
G01	.039 In/Sec	.096 G-s
CRANE5MAIN - CRANE 5 MAIN HOIST (08-Jun-23)		
	OVERALL LEVEL	1-20KHZ
MOH	.053 In/Sec	.074 G-s
MOV	.033 In/Sec	.033 G-s
MIV	.034 In/Sec	.094 G-s
MIH	.049 In/Sec	.083 G-s
MIA	.029 In/Sec	.168 G-s
GIA	.023 In/Sec	.0041 G-s
GIH	.022 In/Sec	.0034 G-s
GIV	.030 In/Sec	.0043 G-s

G01 .016 In/Sec .049 G-s

CRAIN5AUX - CRANE 5 AUXULLARY HOIST (08-Jun-23)

OVERALL LEVEL 1-20KHZ

MOH	.033 In/Sec	.133 G-s
MOV	.049 In/Sec	.096 G-s
MIV	.036 In/Sec	.764 G-s
MIH	.033 In/Sec	.293 G-s
MIA	.029 In/Sec	.367 G-s
GIA	.038 In/Sec	.239 G-s
GIH	.026 In/Sec	.329 G-s
GIV	.022 In/Sec	.305 G-s

CRAIN6MAIN - CRANE 6 MAIN HOIST (08-Jun-23)

OVERALL LEVEL 1-20KHZ

MOH	.055 In/Sec	.206 G-s
MOV	.023 In/Sec	.071 G-s
MIV	.059 In/Sec	.054 G-s
MIH	.035 In/Sec	.187 G-s
MIA	.026 In/Sec	.063 G-s
GIA	.077 In/Sec	.0041 G-s
GIH	.029 In/Sec	.0045 G-s
GIV	.014 In/Sec	.0039 G-s
G01	.035 In/Sec	.079 G-s

BKPRDRMTR2 - BLANK PRESS FEED UNIT 2 (08-Jun-23)

OVERALL LEVEL 1-20KHZ

MOH	.129 In/Sec	.027 G-s
MIH	.066 In/Sec	.024 G-s
MIA	.095 In/Sec	.119 G-s
EA	.107 In/Sec	.012 G-s
EIH	.055 In/Sec	.014 G-s
EOH	.049 In/Sec	.0045 G-s

Database: UNIPRES.rbm
Area: UNIPRES EXTRA

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
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AC-1 - AIR COMPRESSOR 1 (08-Jun-23)

OVERALL LEVEL 1-20KHZ

MOH	.135 In/Sec	1.535 G-s
MIH	.102 In/Sec	1.365 G-s
MIA	.130 In/Sec	.839 G-s
EA	.153 In/Sec	2.273 G-s
EIH	.107 In/Sec	5.580 G-s
EOH	.240 In/Sec	7.095 G-s

AC-2 - AIR COMPRESSOR 2 (08-Jun-23)

OVERALL LEVEL 1-20KHZ

MOH	.072 In/Sec	.676 G-s
MIH	.076 In/Sec	1.872 G-s
MIA	.066 In/Sec	.827 G-s
EA	.236 In/Sec	3.036 G-s
EIH	.133 In/Sec	7.469 G-s
EOH	.141 In/Sec	4.219 G-s

AC-3 - AIR COMPRESSOR 3 (08-Jun-23)

OVERALL LEVEL 1-20KHZ

MOH	.167 In/Sec	.636 G-s
MIH	.086 In/Sec	1.055 G-s
MIA	.104 In/Sec	.553 G-s
EA	.164 In/Sec	2.919 G-s
EIH	.123 In/Sec	3.487 G-s
EOH	.186 In/Sec	4.487 G-s

AC-5	- AIR COMPRESSOR 5	(08-Jun-23)
	OVERALL LEVEL	1-20KHZ
MOH	.305 In/Sec	.581 G-s
MIH	.175 In/Sec	.936 G-s
MIA	.074 In/Sec	.360 G-s
PIA	.141 In/Sec	1.401 G-s
PIH	.234 In/Sec	4.996 G-s
POH	.285 In/Sec	5.389 G-s

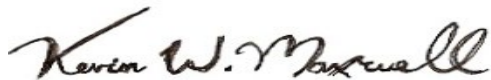
AC-6	- AIR COMPRESSOR 6	(08-Jun-23)
	OVERALL LEVEL	1-20KHZ
MOH	.092 In/Sec	.763 G-s
MIH	.091 In/Sec	1.126 G-s
MIA	.066 In/Sec	.620 G-s
PIA	.134 In/Sec	1.248 G-s
PIH	.113 In/Sec	5.697 G-s
POH	.176 In/Sec	6.702 G-s

Clarification Of Vibration Units:

Acc	-->	G-s	RMS
Vel	-->	In/Sec	PK

As always, it has been a pleasure to serve Unipres Forest, MS. If there are any comments or questions, do not hesitate to contact us.

Sincerely,



ISO Certified Vibration Analyst, Category III



QualiTest® Diagnostics

Cell: 901-486-4565

Email: kwilliam@gohispeed.com